## IN THE CLAIMS

1. (original) A method comprising:

scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system and the object to acquire scatter data;

scanning the object with the CBVCT system without the beam pass array positioned between the x-ray source and the object to acquire image data; and

correcting the image data using the scatter data.

- 2. (original) A method in accordance with Claim 1 wherein said correcting comprises angularly interpolating at least one of the scatter data and the image data to correct for angular misalignment.
- 3. (original) A method in accordance with Claim 2 wherein said angularly interpolating comprises angularly interpolating the image data to correct for angular misalignment, said method further comprising angularly and spatially interpolating the scatter data to obtain a projection scatter estimate.
- 4. (original) A method in accordance with Claim 1 further comprising angularly and spatially interpolating the scatter data to obtain a projection scatter estimate.
- 5. (original) A method in accordance with Claim 4 wherein said correcting the image data comprises subtracting the projection scatter estimate from the image data on a pixel by pixel basis.
- 6. (currently amended) A method in accordance with Claim 1 wherein said scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a

beam pass array positioned between an x-ray source of the CBVCT system and the object to acquire scatter data comprises scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system, wherein the beam pass array comprises a plate with a plurality of openings therethrough, each opening spaced from other opening openings by at least 3 mm.

- 7. (original) A method in accordance with Claim 1 wherein said scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system and the object to acquire scatter data comprises scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system, wherein the beam pass array comprises a plate with a plurality of circular openings therethrough, each opening having a diameter of at least 1 mm.
- 8. (original) A method in accordance with Claim 7 wherein said wherein the beam pass array comprises a plate with a plurality of circular openings therethrough, each opening having a diameter of at least 1 mm comprises scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system, wherein the beam pass array comprises a plate with a plurality of circular openings therethrough, each opening having a diameter of at most 2 mm.
- 9. (currently amended) A method in accordance with Claim 8 wherein said scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system and the object to acquire scatter data comprises scanning an object with a cone beam volumetric computed tomography (CBVCT) system with a beam pass array positioned between an x-ray source of the CBVCT system, wherein the beam pass array comprises a plate with a plurality of openings therethrough, each opening spaced from other opening openings by at least 3 mm.

10. (original) A cone beam volumetric computed tomography system comprising:

an x-ray source;

a detector positioned to receive x-rays emitted from said source; and a beam pass array removably positioned between said source and said detector.

- 11. (currently amended) A system according to Claim 10 wherein said beam pass array comprises a plate with a plurality of openings therethrough, each opening spaced from other opening openings by at least 3 mm.
- 12. (original) A system according to Claim 11 wherein said opening comprise a plurality of circular openings, each said circular opening having a diameter of at least 1 mm.
- 13. (original) A system according to Claim 12 wherein each said circular opening having a diameter of at most 2 mm.
- 14. (original) A system according to Claim 13 wherein each said circular opening having a diameter of approximately 1.5 mm.
- 15. (original) A system according to Claim 10 further comprising a computer operationally coupled to said detector, said computer configured to:

receive scatter data from a scan of an object;

receive image data from a scan the object with the beam pass array removed; and correct the image data using the scatter data.

- 16. (original) A system according to Claim 15 wherein said computer further configured to angularly interpolate at least one of the scatter data and the image data to correct for angular misalignment.
- 17. (original) A system according to Claim 16 wherein said computer further configured to angularly and spatially interpolate the scatter data to obtain a projection scatter estimate.
- 18. (original) A system according to Claim 16 wherein said computer further configured to correct the image data by subtracting the projection scatter estimate from the image data on a pixel by pixel basis.
- 19. (original) A computer readable medium encoded with a program configured to instruct a computer to:

receive scatter data from a cone beam scan of an object with a beam pass array present;

receive image data from a cone beam scan the object without the beam pass array present; and

correct the image data using the scatter data.

- 20. (original) A medium in accordance with Claim 19 wherein said program further configured to instruct the computer to angularly and spatially interpolate the scatter data to obtain a projection scatter estimate.
- 21. (currently amended) A medium in accordance with Claim 17 wherein said program further configured to instruct the computer to angularly interpolate the image data to correct for angular misalignment.